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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/709,171 | 04/19/2004 | James S. Tropp | GEMS 0150 PUS | 3170 |
| 27256 | 7590 | 06/24/2005 | EXAMINER | |
| ARTZ & ARTZ, P.C. 28333 TELEGRAPH RD. SUITE 250 SOUTHFIELD, MI 48034 | | | SHRIVASTAV, BRIJ B | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2859 | |

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,171

Applicant(s)

TROPP ET AL.

Examiner

Brij B. Shrivastav

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Duensing (US 2003/0020476).

As regards to claim 1, Deunsing teaches an MRI system including a scanning unit adapted to generate a parallel scan (paragraphs 2, 6, 23 and 37), including a substantially cylindrical member defining a scanning bore, and a RF coil assembly mounted in the scanning bore (paragraph 2), wherein the RF coil assembly comprises a TEM surface resonator array (paragraph 22).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2859

Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nabetani (US 6,618,610), and further in view of Duensing (US 2003/0020476)

As regards to claims 12 and 14, Nabetani teaches a MRI system and a method, including a scanning unit adapted to generate a scan (figure 6), wherein a substantially cylindrical member defining a scanning bore, and having a RF coil comprising a TEM surface resonator, which is adapted to generate and receive an image signal (figure 6; column 1, lines 5-26; column 2, lines 38-65). However, Nabetani does not teach a scan unit adapted to generate parallel scan or imaging. Deensing teaches an scan unit adapted to generate parallel scan or imaging (paragraphs 6, 23 and 37). It would have been obvious to one having ordinary skill in the art to adapt Deensing's teaching with the teaching of Nabetani to shorten the scanning time and to improve image quality by improving SN ratio.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Duensing (US 2003/0020476) as applied to claim 1 above, and further in view Yamashita et al (US 6,556,012).

As regards to claim 2, Duensing further fails to teach superconducting magnetic structure to create constant magnetic field in an MRI system. Yamashita et al teach superconducting magnetic structure to create constant magnetic field in an MRI system (column 4, lines 36-48). It would have been obvious to one of ordinary skill in the art to adapt Yamashita et al's teaching with the teaching of Deensing to increase magnetic field strength without heat lose and decipation, improving image quality.

Claims 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Duensing (US 2003/0020476) as applied to claim 1 above, and further in view Bogdanov et al; Magnetic Resonance in Medicine 47: 579-593 (2002).

As regards to claims 3-11, Deunsing does not further teach limitations expressed in these claims, which Bogdanov et al teach (figures 1-3). It would have been obvious to one having ordinary skill in the art to adapt teachings of Bogdanov et al in the teachings of Deunsing to improve image quality.

Claims 13 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nabetani (US 6,618,610) as applied to claims 12 and 14 above, in view of Duensing (US 2003/0020476), and further in view of Bogdanov et al; Magnetic Resonance in Medicine 47: 579-593 (2002).

As regards to claims 13 and 15-20, Nabetani and Deunsing do not teach limitations of these claims, which Bogdanov et al teach (figures 1-3). It would have been obvious to one having ordinary skill in the art to adapt teachings of Bogdanov et al with the teachings of Nabetani and Deunsing to improve image quality.

3. Figure 4 is missing from the application file, applicant is requested to provide a copy of the figure.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brij B. Shrivastav whose telephone number is 571-272-2250. The examiner can normally be reached on 7 AM to 4 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. F. Gutierrez can be reached on 571-272-2245. The fax phone

Art Unit: 2859

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 19, 2005


Brij B Shrivastav
Examiner
Art Unit 2859
